



US006371002B1

(12) **United States Patent**
MacLeod

(10) **Patent No.:** **US 6,371,002 B1**
(45) **Date of Patent:** **Apr. 16, 2002**

(54) **DETACHABLE SHOCK-ABSORBING RAM-PLATE**

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(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 5 days.

(21) Appl. No.: **09/672,800**

(22) Filed: **Sep. 29, 2000**

(51) **Int. Cl.**⁷ **F41F 3/04**

(52) **U.S. Cl.** **89/1.81; 89/1.816**

(58) **Field of Search** **89/1.81, 1.818, 89/1.816**

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(57) **ABSTRACT**

The detachable shock-absorbing ram-plate is used in a projectile launching system to mitigate launching impact forces and to prevent ram-plate re-strike during launch. The detachable shock-absorbing ram-plate is detachably coupled to the projectile using break-away fasteners that allow the ram-plate to be attached to the projectile during launch and detached from the projectile at the end of the launch. One embodiment of the detachable shock-absorbing ram-plate is a single impact, viscous fluid ram-plate including a cylinder, a perforated piston, and a viscous fluid disposed between the cylinder and the perforated piston. Upon receiving a high initial launch impact force, the piston compresses causing the viscous fluid to be forced through the perforated piston, thereby absorbing the shock of the initial launching impact force. Another embodiment of the detachable shock-absorbing ram-plate is a gas spring ram-plate having a cylinder and piston that compresses a gas to absorb shock caused by launching forces. A further embodiment of the shock-absorbing ram-plate is made from a compressible elastic material.

15 Claims, 2 Drawing Sheets

